

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number  
**WO 2005/006008 A1**

(51) International Patent Classification<sup>7</sup>: **G01R 33/3875**

Box 220, NL-5600 AE Eindhoven (NL). HARVEY, Paul,  
R. [GB/NL]; P.O. Box 220, NL-5600 AE Eindhoven (NL).

(21) International Application Number:  
PCT/IB2004/002223

(74) Common Representative: **KONINKLIJKE PHILIPS  
ELECTRONICS N.V.**; c/o LUNDIN, Thomas, M., 595  
Miner Road, Cleveland, OH 44143 (US).

(22) International Filing Date: 7 July 2004 (07.07.2004)

(25) Filing Language: English

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(26) Publication Language: English

(30) Priority Data:  
60/486,633 11 July 2003 (11.07.2003) US

(71) Applicant (for all designated States except US): **KONIN-  
KLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];  
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

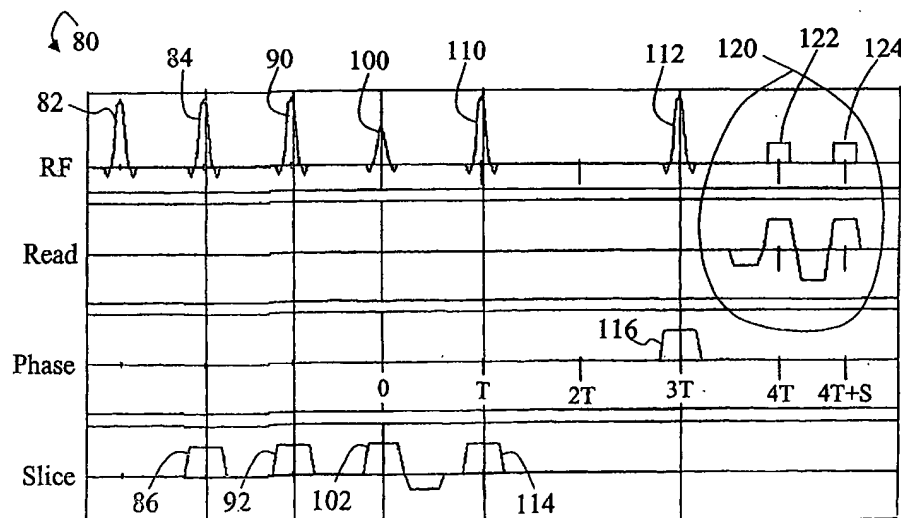
(72) Inventors; and

(75) Inventors/Applicants (for US only): **FOXALL, David,**  
L. [US/US]; 595 Miner Road, Cleveland, OH 44143 (US).  
**PRINS, Wim, M.** [NL/NL]; P.O. Box 220, NL-5600 AE  
Eindhoven (NL). **KRUISKAMP, Marijn** [NL/NL]; P.O.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

[Continued on next page]

(54) Title: SHIMMING OF MRI SCANNER INVOLVING FAT SUPPRESSION AND/OR BLACK BLOOD PREPARATION



(57) Abstract: In a method for shimming a magnetic resonance imaging scanner (10), at least one of fat suppression and blood suppression is performed to suppress magnetic resonance from a corresponding at least one of fat and blood. First and second magnetic resonance echoes emanating from a generally columnar volume are measured. The measurements of the first and second magnetic resonance echoes (122, 124) are reconstructed (150) into corresponding first and second generally columnar projection images (152, 154). The first and second generally columnar projection images are combined (160) to produce a magnetic field profile (174) of the generally columnar volume. Selected magnetic field parameters are extracted (142) from the magnetic field profile. Shim currents are computed (180) from the selected magnetic field parameters. The shim currents are applied to magnetic field coils (16, 60).



SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*